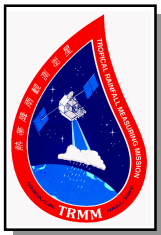


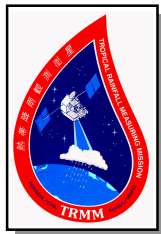
TRMM Monthly Status Review Briefing

November 1st, 2000



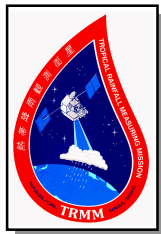
FOT Overview

- Operations Status - Engineering Staff
 - Flight Ops Summary - Lou Kurzmilller
 - Electrical & Thermal - Andy Calloway
 - ACS & FDS / C&DH - Mark Fioravanti
 - RCS & RF / Comm - David Corley for Rob Bote
 - Power & Deployables - Justin Knavel
 - CERES & VIRS - Mark Fioravanti
 - LIS, TMI, & PR - Andy Calloway
 - Ground System - Andy Calloway
 - Upcoming Activities - Andy Calloway
 - Leonids Timeline Overview - Andy Calloway



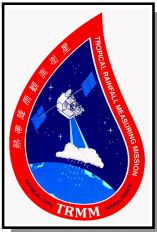
Flight Operations Summary

- Supported 554 SN events in October
 - 2 Yaw Maneuvers
 - 12 Delta-V Maneuvers
- 5 Event Rpts & 1 Generic Late Acq Rpt generated
 - ER #209 & #210: EPV Continuity
 - ER #211: Receiver 1 Dropout
 - ER #212: LTS Line Configuration
 - ER #213: 2 Events Taken due Critical ISS



Flight Operations Summary

- Notable Events
 - Spacecraft PWR subsystem configured to preferred state
- Staffing
 - 1 subsystem engineer completed Certification

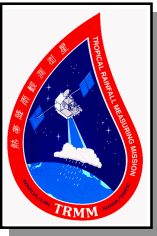


Flight Ops Summary

SPECIAL EVENTS AND ACTIVITIES FOR TRMM 2000													
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTALS
2	6	8	10	13	9	7	9	8	8	12			90
2a	1	1	2	1	1	1	2	1	1	2			13
2b	0	0	0	0	0	0	0	0	0	0			0
2c	0	0	0	0	0	0	0	0	0	0			0
3	2	1	0	1	2	2	2	2	1	1			14
3a	5	1	3	7	4	4	2	4	6	9			45
3b	3	1	2	4	4	3	3	6	3	3			32
3c	0	3	2	2	0	0	2	0	2	2			13
3d	1	0	1	0	0	0	0	0	1	1			4
3e	0	0	0	0	0	0	0	0	44	0			44
3f	6	1	3	3	5	2	2	4	3	1			30
4	3	3	0	3	3	5	0	2	1	1			21
4a	2	2	2	2	2	2	2	2	2	2			20
4b	1	2	2	1	2	1	1	2	1	2			15
4c	0	7	21	23	10	19	12	3	1	0			96
4d	11	0	4	1	4	2	4	1	2	4			33
4e	0	0	0	0	0	0	0	0	0	0			0
5	26	6	4	5	16	11	9	5	6	16			104
5a	0	0	4	0	1	4	2	0	0	0			11
5b	3	3	2	3	0	0	2	1	2	4			20
5c	0	0	0	0	0	0	0	0	0	0			0
8	0	0	0	0	0	0	0	0	0	0			0
8a	0	0	0	0	0	0	0	0	0	0			0
TOT:	70	39	62	69	63	63	54	41	84	60	0	0	605

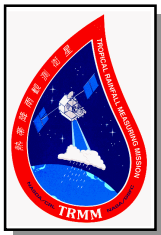
LEGEND

CSOC CATEGORIES		TRMM SUB-CATEGORIES AND EXAMPLES
1	Targets of Opportunity	N/A
2	S/C Maneuvers	DeltaVs (2) , 180° Yaw Maneuvers (2a) , 90° Yaws (2b) , Deep Space Cals (2c)
3	Unplanned Events	Blind Acqs (3) , Patch Loads (3a) , Manual DS Ops - Blind Acqs, MI, H/W Problems (3b) , EPV Fail Ops (3c) , VIRS Reset Recoveries (3d) , Anomaly Recoveries (3e) , Generic Late Acqs - GCMRs and Manual DS Ops (3f)
4	Customer Requests	PR (4) , VIRS (4a) , LIS (4b) , CERES (4c) , FSW (4d) , AETD (4e)
5	Celestial Phenomena	VIRS Heater Ops (5) , Power Ops - Autospru, TSMs, C/D (5a) , UTCF / FS Ops (5b) , Leonids Ops (5c)
6	Pre-Launch Testing	N/A
7	L&IOC Operations	N/A
8	EOL Operations	Delta-H Firings (8) , Reentry Maneuvers (8a)



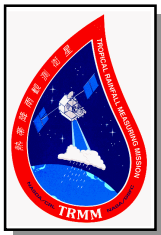
Thermal / Electrical Subsystems

- Thermal and Electrical subsystems remain nominal with no open issues
- FOT will assist AETD as needed for End Of Life Thermal Analysis
 - Who will be the AETD Point of Contact - Kim Brown?
 - What is lowest attainable perigee which still meets thermal survivability constraints?
 - What are the thermal constraints, if any, of long duration burns with respect to non-thruster spacecraft components?



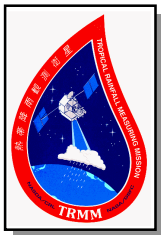
ACS Subsystem

- Open CCRs (In order of Priority);
 - CCR #069: New table 85 to match new TDRS-8 continuity limits for other TDRS, and another table 85 to widen the limits after an update failure.
 - CCR #070: New version of Table 61 to incrementally pitch the S/C while in SunAcq.
 - CCR #005: Correction for Magnetic Field Epoch, will be required for EOL if apogee is greater than 400 km.
 - CCR #065: Update ACS system tables in preparation for EOL activities.
 - » Table #73 (Thruster Parameters)
 - » Table #90 (Mode Configuration Data for Contingency)
 - CCR #053: ACS FS/W bug



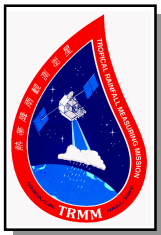
FDS/C&DH Subsystems

- UTCF Status;
 - Three Adjustments were performed in October. On 00-282 (Sunday, October 8th, 2000), 00-291 (Tuesday, October 17th, 2000), and 00-301 (Friday, October 27th, 2000)
 - Current UTCF value is 31535996.835569 sec
 - FS Adjustment was performed on 00-301 (Friday, October 27th, 2000)
 - Current FS value is x'7ae'
- New CCRs;
 - New TSM table to accommodate the change in operations resulting from the PSIB Anomaly (See Power Section)



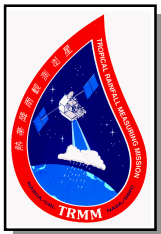
FDS/C&DH Subsystems

- Open CCRs;
 - CCR #034: Writing from RAM to EEPROM for new TSM table #21 and RTSs # 2, 3, 13, 14, and 15. Completed, only need final documentation.
 - CCR #047: Will work with FSW on no-clock software patch activities
 - CCR #048: New on-board DS filter table to record ACE 8-Hz data
 - CCR #071: Build a new DS quota table (73) to reallocate CERES science memory to other instruments, contingent on powering CERES off permanently.



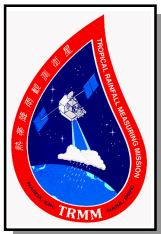
RCS Subsystem

- RCS performed 12 successful Delta-V maneuvers (#231 - #242)
- EOL worst case remains **September, 2003**
 - Current fuel remaining is 507.217 kg
- No Open RCS Anomaly or Event Reports
- Upcoming Events
 - Begin review of, and training in, Delta-H procedures and scripts for EOL



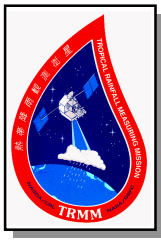
RF Subsystem

- 1 Generic Late Acquisition (#72)
- Frequency offset Transponder #1 = +699.862 Hz (average)
- Frequency offset Transponder #2 = -821.522 Hz (average)
- 2 RF Event Reports
 - #211: 16 s receiver #1 dropout on 10/17. All data recovered.
 - #212: Late acquisition due to line misconfiguration within MOC. All data recovered.
- Performing 1/1 k events once a week for training/risk reduction
- No new RF MOCRs this month
- Upcoming Events
 - Offset of transponder frequencies likely within 6 months



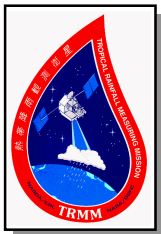
Power Subsystem

- No change in PSIB A and B telemetry
- 00-287(October 13th) - Switched to Constant Current Mode (CCM) & VT 5 from Peak Power Tracking (PPT) & VT 4 due to concern of PPT damaging Battery #2 Cell #1.
- New RTS 21 and TSM 37 - 40 - Testing on-going
 - If a further PSIB failure occurs, which causes the power system to charge at a low Constant Current, then RTS 21(LOADSHEDPPT) will prevent the power system from being locked in CCM by commanding to PPT, prior to additional failures. Currently, 3 failures would have to occur to be locked in low CCM.
 - RTS 21 performs the same functions as RTS 2(LOADSHED) except for the following:
 - » PPT & VT 4 instead of CCM & VT 5 (See Flowchart)
 - Two Loadshed RTSs are needed because RTS 10 & 11 (BATOFF) must still stay in CCM, PPT will cause extremely high current to go into 1 battery.



Power Subsystem

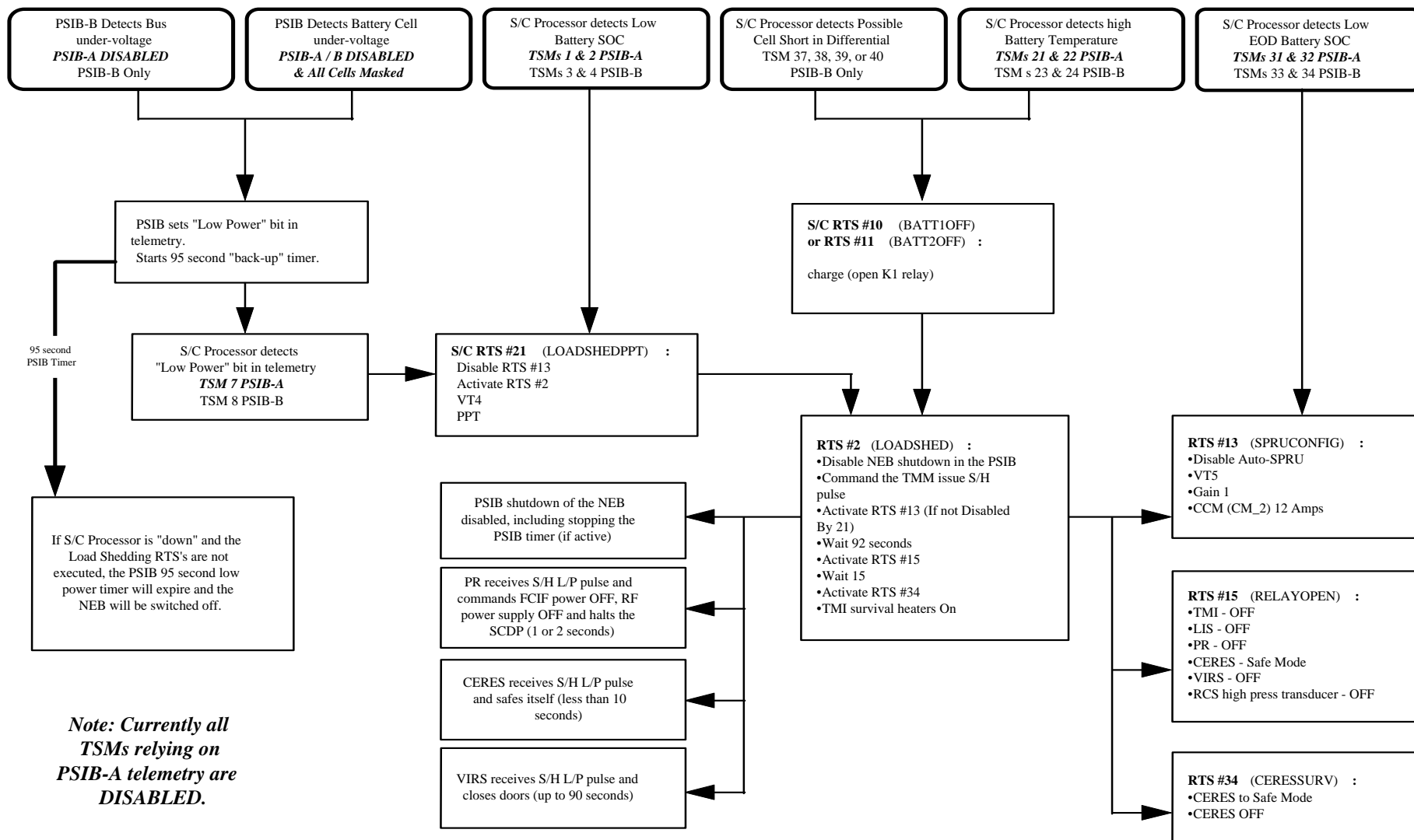
- The following TSMs will now call RTS 21
 - » Battery SOC $< 70\%$ (TSM 3 & 4)
 - » Essential Bus Voltage < 24.7 v (TSM 8)
- New TSMs 37 - 40 will monitor Battery Differential Voltage Average
 - » Threshold 1 & 2 - Event Message
 - » Threshold 3(± 700 mv) - RTS 10 or 11 (BATOFF)

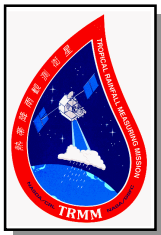


Power Subsystem

10/19/2000

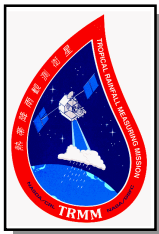
New Low Power RTS Scenario





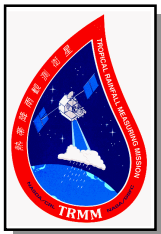
Deployables Subsystem

- Solar array drives and HGA continue to operate nominally
- No open issues other than to concentrate on array behavior and contingency training with all FOT members



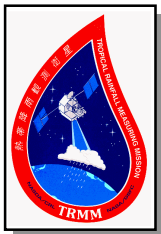
CERES Instrument

- Power On will be attempted on or about 00-350 (December 16th, 2000)
- Open Issues
 - Data Acquisition Processor (DAP) Telemetry Drop Out and Possible Failure (Anomaly #81)
- Issues on Hiatus
 - Continuous Biaxial operations
 - DR on MP ground system to incorporate new CERES requirements



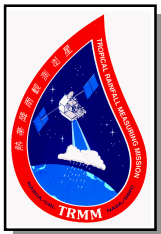
VIRS Instrument

- 2 Solar Calibrations were performed on 00-298 (Tuesday, October 24th, 2000)
- VIRS performed self reset #14 on 00-291 at 14:19:09z (Tuesday, October 17th, 2000)



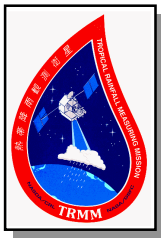
LIS Instrument

- Routine MSFC real-time command request performed on 00-285 and 00-298 (October 11th and 24th) to reduce packet sequence errors
- No open issues



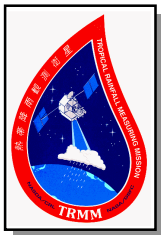
TMI / PR Instruments

- No concerns or open issues for TMI
- PR Activities:
 - LNA Analysis command request performed on October 19th (00-293)
- PR Open Issues
 - Frequency Agreement Renewal
 - » No new interference reported in October



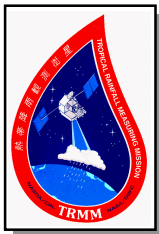
Ground System

- PTPs now have redundant power supply failover capability to allow seamless transfer between UPS-5 (primary) and UPS-2 whenever one of them goes down
- UPS-5 outage is still scheduled for November 14th - FOT operational timeline of activities has been completed
 - Events will be supported on String -2 (UPS-2) during the outage with no failover capability
- Work Request to move MOR air vents has been submitted



Upcoming Activities

- 0-2 Months
 - Ensure FOT training remains top priority
 - Continue PSIB-Anomaly investigation and activities
 - Power the CERES instrument back on
 - Leonids Operations (11/18/2000)
 - New FDF Product deliveries which will incorporate new TDRS-8 data
 - New System Software Release which will support TDRS-8
 - Completion of TRMM/XTE MOC failover implementation
 - Continue to close open CCRs, MOCRs, ERs, ARs, and MSR Action Items



Upcoming Activities

- 2-3 Months
 - Begin testing and using the new TDRS-8
 - Leap Year Transition for DOY 366 - No Leap Second Adjustment
- 3-12 Months
 - Extended Mission Operations (1/2000)
 - Test, validate, and accept the new PACOR-A system
 - Begin End Of Life Planning, Testing, and Simulations
 - Commence DSN/GN FOT training
 - Testing of new PTP hardware and software deliveries
 - System Software Release 8.2 Delivery
 - Transponder Offset Activities